

PATENT SPECIFICATION

DRAWINGS ATTACHED

1035346



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COMPLETE SPECIFICATION

Improvements in or relating to Electrical Connecting Devices

- We, ENTREPRISE GENERALE D'INSTALLATIONS ELECTRIQUES, a Societe Anonyme organised under the laws of France, of 42, rue Pasquier, Paris (8eme), France, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- 10 The invention relates to an electrical power distribution system for providing a temporary supply of electrical power.
- 15 The increasing number of itinerant users of electrical power such as travelling shows, public works, temporary agricultural installations etc., makes it necessary for distributors of electric power to provide at predetermined locations a number of current outlets to which the users can be connected temporarily.
- 20 According to the invention, there is provided an electrical power distribution system for providing a temporary supply of electrical power, comprising a base portion including electrical conductors for connection to an electrical power supply mains, a cabinet adapted to stand on the base portion and including further electrical conductors and electrical power metering equipment for metering the flow of electrical power in the further conductors, and plug-and-socket connecting means for making releasable electrical connections between the conductors in the base portion and the further conductors in the cabinet when the cabinet is standing on the base portion, the temporary supply of electrical power being provided through the further conductors in the cabinet.
- 35 Two forms of an electrical power distribution system embodying the invention will now be described by way of example and with reference to the accompanying drawings in which:
- 40 Figure 1 is a perspective view showing an underground base constructed within a pavement, with the lid closed; 45
- Figure 2 is a perspective and part-sectional view showing an underground base with the lid and front wall removed for clarity;
- 50 Figure 3 is another perspective view showing a connecting device constructed according to the teachings of this invention, with the cabinet overlying an underground base; 50
- Figure 4 is a vertical section taken upon the line IV—IV of figure 6 and showing an underground disconnecting-box and junction-box assembly; 55
- Figure 5 is a section taken upon the line V—V of figure 4, showing an underground disconnecting box; 60
- Figure 6 is a plan view showing the assembly of figure 4; 60
- Figure 7 shows in section the connexion between the cabinet and an underground branch box;
- 65 Figure 8 illustrates in perspective a cabinet laid upon an external junction box disposed at ground level; and
- 70 Figure 9 illustrates in perspective a connecting assembly laid upon an external junction box corresponding to figure 8. 70
- As shown in figures 1 and 2 of the drawings, the fixed base of the branch-circuit or outlet device comprises two compartments. An outlet compartment 1 on which the cabinet 2 (figure 3) is laid comprises the plug-type connecting members 3 corresponding to the connecting members of the cabinet. These connecting members 3 are electrically connected to the current supply members or terminals housed in an inlet compartment 4. This last-named compartment, as will be seen in connection with the next figures, encloses the fuses and the lead-in bus bars and terminal. The outlet and inlet compartments are closed by lids 5 fitting in a groove 6. This groove is adapted to receive a corresponding depending flange formed at the 85

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lower end of the cabinet when the latter is laid upon the outlet compartment 1.

Figure 3 illustrates the relative arrangement of the connecting cabinet 2 on an underground base, with a pole 7 secured on the cabinet 2 and adapted to support the service cables 8 leading to the subscriber or other user. This cabinet contains the elements for connecting same to the base, as well as the disconnecting elements, the protection elements and the metering elements, and also the means for connecting the cabinet to the user's cables or lines. This cabinet comprises a roof or lid 9 for protecting same from weather conditions while permitting the passage of the cables to the users, line or lines.

A stringer or like belt or reinforcement 35 consisting for example of angle iron is provided at the lower end of the cabinet to improve its imperviousness.

Specific forms of embodiment of the inlet and outlet compartments are illustrated in figures 4 to 6 of the drawings.

Figure 4 illustrates an inlet compartment and an outlet compartment. Overlying the inlet compartment is a lid 5, but above the outlet compartment is the cabinet 2 shown only partially in the figure. The lid is double-walled and comprises an outer member 5 simply laid by gravity and an inner member 10 provided with a sealing gasket 36 and bolted as shown at 12 on the wall of the compartment 11. The bolts 12 provided to this end are also used for fastening the cabinet on its base. The figure also shows the lead-in bus bars 13, the insulators 14 equipping the passages between the two compartments or boxes, and a special insulator 15 for supporting a connecting plug 3 permitting the connection with the overlying cabinet.

Figure 5 is a section taken upon the line V—V of the compartment 11 of figure 4, showing a fuse 16 and bus bar supports 17.

Figure 6 is a plan view of the assembly of figure 4 in order clearly to show the lead-in cable boxes at the ends 18 and 19 of the inlet compartment, the fuses 16 connecting bus bar 20, and the supports 21 for the insulators 15.

Figure 7 illustrates the outlet compartment with the connections leading to the cabinet, and is section taken upon the line VII—VII of figure 4. The compartment comprises four insulators 15 supporting the connecting plugs for example in the case of a three-phase system with neutral. The sealing gasket between the cabinet and the compartment is designated by the reference numeral 36.

Figures 8 and 9 show the specific case of an external base 22 with a cabinet 2 laid thereupon. This cabinet comprises a collar 23 for clamping the cabinet to a pole and the base has a hole 24 formed therein for slidably receiving the bottom end of this pole. Figure 9 shows more particularly the

cabinet and pole assembly with the lead-out or service cables, leading to the users, suspended from the pole by means of a clamping collar 25.

It will be seen that the electrical power distribution system described permits a rapid and convenient connection to be made between the main power circuit and a temporary user under good conditions of safety.

The cabinet 2 includes bus-bars, switches and protective fuses, and electrical metering equipment for the metering and recording of current consumed by the user.

Since the electrical apparatus is enclosed in a cabinet, the risks existing when apparatus is suspended from and connected to overhead circuits are eliminated. Moreover, the protection devices for protecting the temporary supply are more completely shielded against weather conditions. The meter for metering the quantity of power consumed by the user is also protected.

The connecting cabinet can easily be transported from one location to another and therefore affords substantial savings both in apparatus and time and providing a reliable and safe temporary power supply as well. If desired, the base may be arranged for receiving a plurality of cabinets for supplying current to several subscribers from a common base. The cabinet may, if required, be of the underground type, that is disposed in an underground room provided to this end. The cabinet is illustrated in the drawings as having a hinged door, but a sliding door, a suspended door or any other door or closing system may be used instead.

WHAT WE CLAIM IS:—

1. An electrical power distribution system for providing a temporary supply of electrical power, comprising a base portion including electrical conductors for connection to an electrical power supply mains, a cabinet adapted to stand on the base portion and including further electrical conductors and electrical power metering equipment for metering the flow of electrical power in the further conductors, and plug-and-socket connecting means for making releasable electrical connections between the conductors in the base portion and the further conductors in the cabinet when the cabinet is standing on the base portion, the temporary supply of electrical power being provided through the further conductors in the cabinet.

2. An electrical power distribution system according to claim 1, in which the base portion is mounted in the ground with its top substantially flush with the ground level.

3. An electrical power distribution system according to claim 1 or 2, in which the base portion is adapted to receive a lid to cover it when the cabinet is not standing on it, the lid being removed to make way for the cabinet.

4. An electrical power distribution system according to any preceding claim, in which the base portion comprises an inlet compartment and an outlet compartment arranged side-by-side, the outlet compartment and the cabinet containing means for making releasable plug-and-socket connections between the conductors in the cabinet and connecting links in the outlet compartment, and the inlet compartment containing means for making electrical connections between the said connecting links and the electrical power supply mains, the said cabinet being adapted to stand on the outlet compartment.
5. An electrical power distribution system according to any preceding claim, in which said cabinet is adapted to be rapidly secured on to said base portion by means of bolts.
6. An electrical power distribution system according to any preceding claim, in which a sealing stringer or belt is provided around the lower edge of said cabinet adapted to lie against the base portion.
7. An electrical power distribution system according to any preceding claim, including a sealing gasket adapted to be interposed between said cabinet and said base portion.
8. An electrical power distribution system according to any preceding claim, including means on the cabinet for supporting a pole, the said pole being arranged to support power supply lines arranged for connection to the said conductors in the cabinet.
9. An electrical power distribution system according to any preceding claim, in which the cabinet includes switch means and fuses for controlling and monitoring the said temporary supply of electrical power.
10. An electrical power distribution system, substantially as described with reference to and as illustrated in Figs. 1 to 7 of the accompanying drawings.
11. An electrical power distribution system, substantially as described with reference to and as illustrated in Figs. 8 and 9 of the accompanying drawings.

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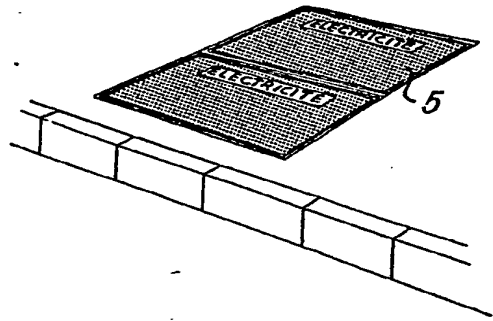


Fig. 1

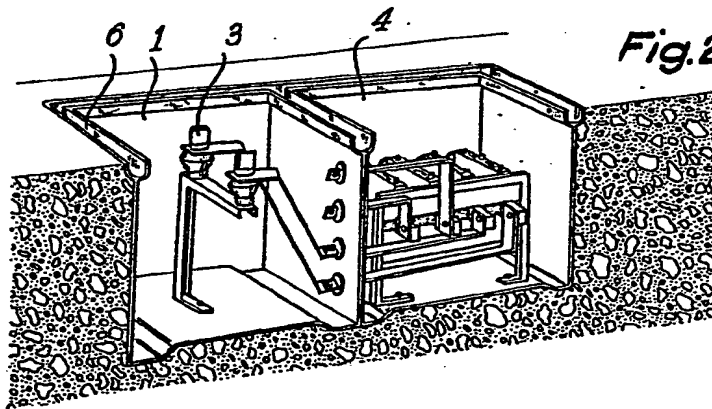


Fig. 2

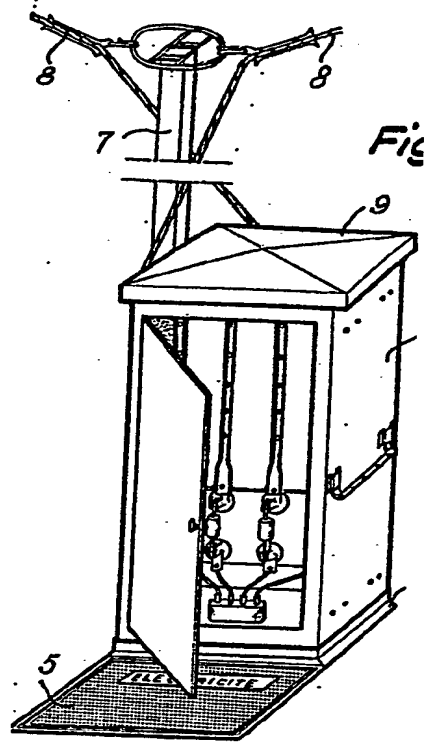


Fig. 3

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Sheets 1, 2 & 4

Fig. 7.

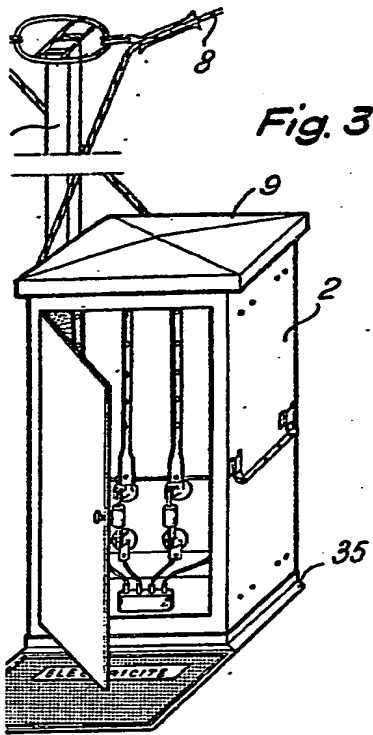
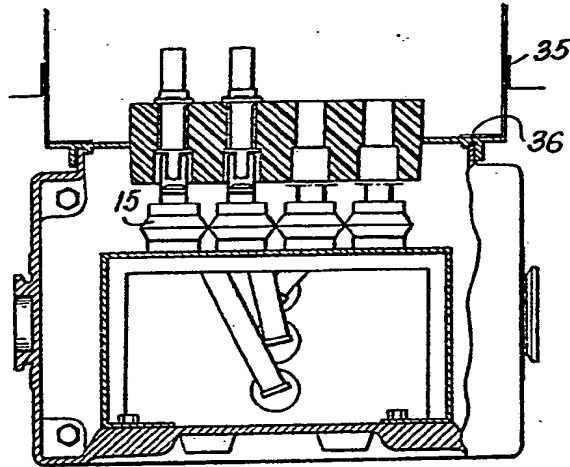


Fig. 3

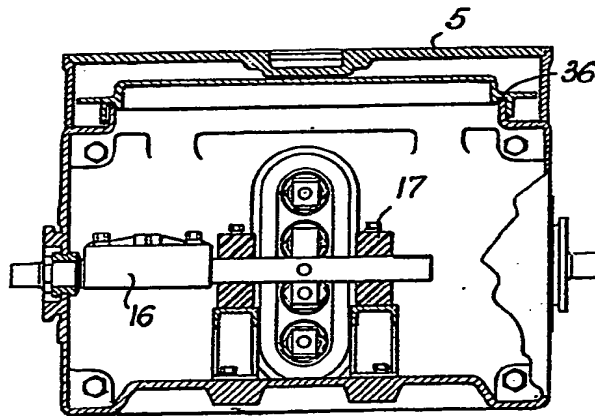


Fig. 5.

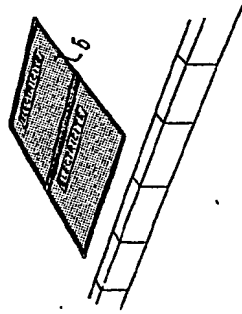


Fig. 1

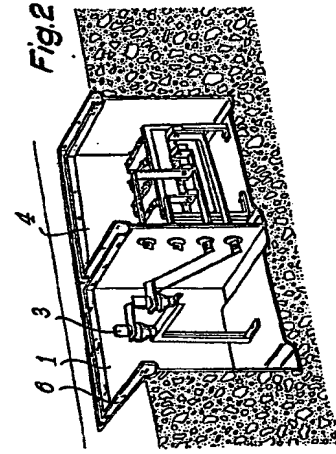


Fig. 2

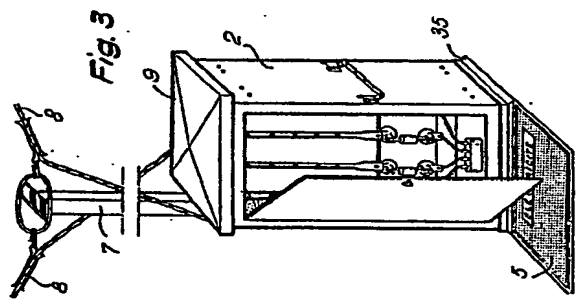


Fig. 3

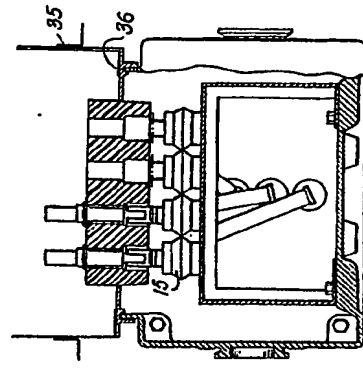


Fig. 5

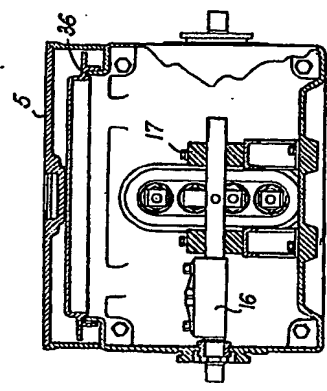
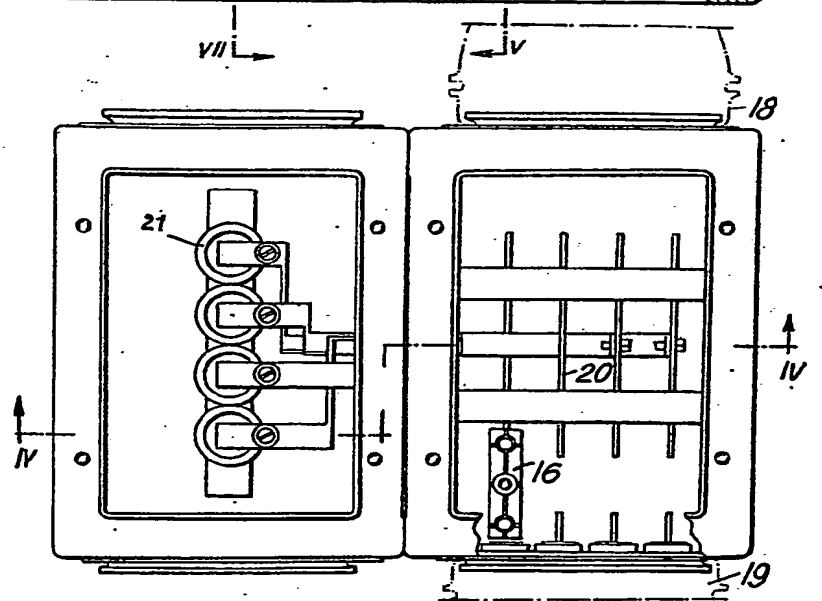
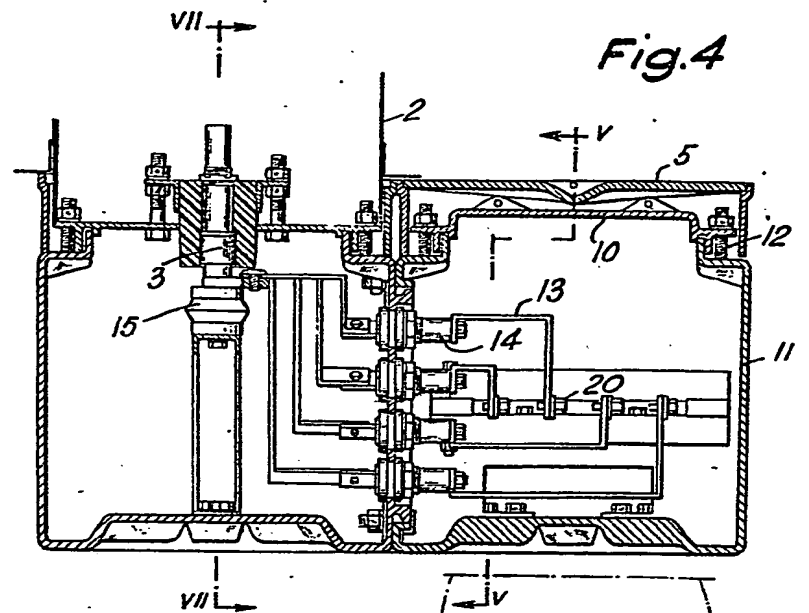


Fig. 7



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5 SHEETS

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Sheets 3 & 5

Fig.4

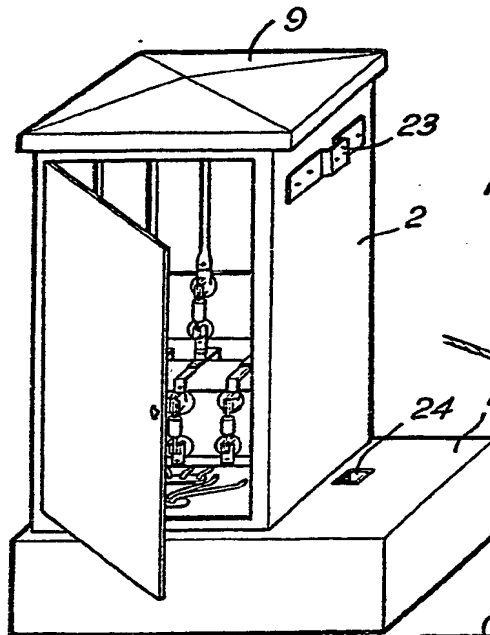
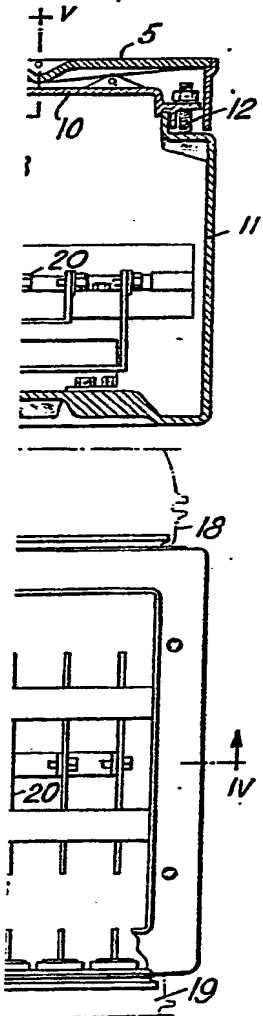


Fig.8

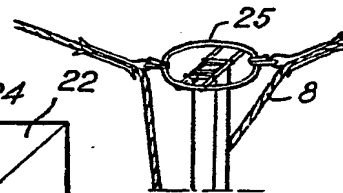
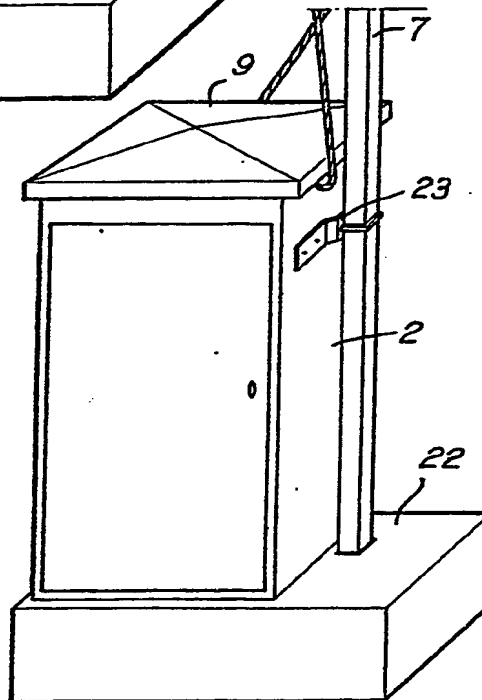
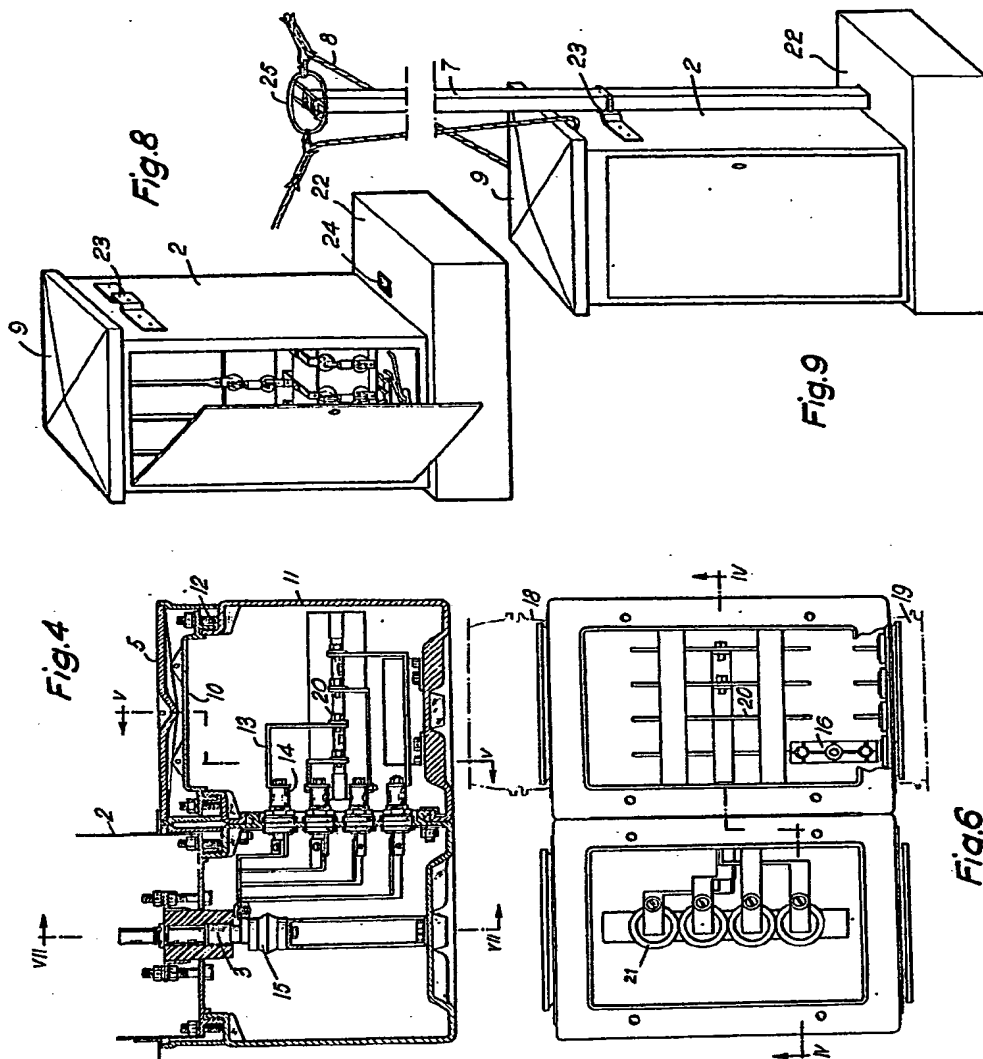


Fig.9





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